

Notice of Allowability

Application No.

10/721,691

Examiner

Amy T. Lang

Applicant(s)

REINITZ, KARL

Art Unit

3731

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed); a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment filed 6/27/2007.
2. ☒ The allowed claim(s) is/are 1 and 6-18.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

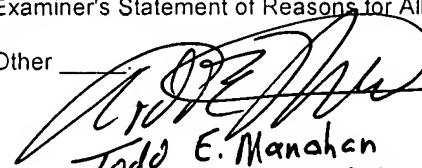
Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material

5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____


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SPE 3731

DETAILED ACTION

1. Page 4 of the claims filed 6/27/2007 is an amendment to page 5 of the specification.

Allowable Subject Matter

1. Claims 1 and 6-18 allowed.
2. The following is an examiner's statement of reasons for allowance: the prior art of record does not teach or render obvious a J-shaped needle terminating in a tapered distal tip wherein the distal arm of the needle has a passage to hold suture material and is movable from a first position to a second position wherein the distal arm pivots toward the straight elongated portion of the J-shape.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amy T. Lang whose telephone number is 571-272-9057. The examiner can normally be reached on M-F 8:30am-5:00pm.

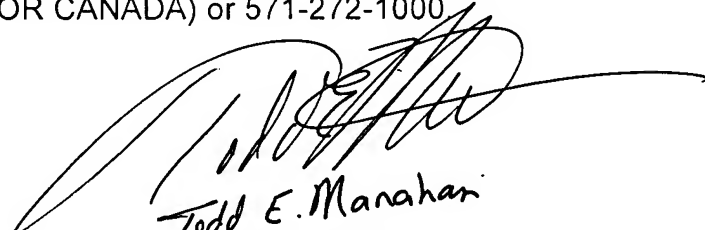
Art Unit: 3731

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Todd Manahan can be reached on 571-272-4713. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

11/02/2007

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SPE 3731

10/721,691

Amendments to the Claims

Claim 1 (Currently Amended). A suturing apparatus, comprising:

a body;

a J-shaped needle, the needle having a proximal end and a distal end, the proximal end of the needle attached to the body and having a first central axis portion located within the proximal end of the needle, wherein

the proximal end of the needle is attached to the body and comprises an elongated, straight portion of the J-shape, a first central axis is located within the proximal end of the needle.

the distal end of the needle having a needle tip comprising a tapered needle tip capable of penetrating tissue and having at least one passage to hold suture material, the needle tip having a tapered portion, the tapered portion of the needle tip having a center line comprising the centroids of adjacent selected planar cross-sections of the tapered portion, each selected planar cross-section selected for having the smallest area of all a smaller area than each proximally located, planar cross-section having the same centroid as the selected planar cross-section, the distal end of the needle formed so that at least a first line is tangent to the center line forming an acute angle with the and the first central axis portion;

a movable arm, the movable arm having a proximal end and a distal end,

the proximal end of the movable arm pivotally movably attached to the body,

the distal end of the movable arm operable to contact at least a portion of the needle tip consisting of a needle tip protector and pivoting from a closed position wherein the needle tip protector contacts the needle tip to an open position wherein the movable arm pivots toward the straight elongated portion of the J-shape and no longer contacts the needle tip; and

a movable part actuator, the movable part actuator operable to move the movable arm between the an open position and the a closed position the closed position occurring when the distal end of the movable arm contacts at least a portion of the needle tip, the open position occurring when the distal end of the movable arm does not contact the needle tip.

Claim 2 (Canceled)

Claim 3 (Canceled)

Claim 4 (Canceled)

Claim 5 (Canceled)

Claim 6 (Original). A suturing apparatus as claimed in claim 1, wherein the movable arm actuator comprises a compression member, the compression member disposed within the body, the compression member operable to urge the movable arm to the open position.

Claim 7 (Original). A suturing apparatus as claimed in claim 6, wherein the compression member is a spring.

Claim 8 (Original). A suturing apparatus as claimed in claim 1, wherein the apparatus comprises materials capable of tolerating autoclave sterilization.

Claim 9 (Original). A suturing apparatus as claimed in claim 1, further comprising a first handle and a second handle, the first handle and the second handle attached to the opposite sides of the body.

Claim 10 (Previously Amended). A suturing apparatus as claimed in claim 1, further comprising a first depression and a second depression, the first depression and the second depression disposed upon opposite sides of the body in locations where they may accept an operator's fingers while the operator is placing the sutures.

Claim 11 (Previously Amended). A suturing apparatus as claimed in claim 1, further comprising a first depression and a second depression, the first depression and the second depression disposed upon the underside of the body in locations where they may accept an operator's fingers while the operator is placing the sutures.

Claim 12 (Currently Amended) A suturing apparatus as claimed in claim 1, wherein the apparatus is configured optimized for left-handed use.

Claim 13 (Currently Amended) A suturing apparatus, comprising:

a body;

a hook shaped needle, the needle having a proximal end and a distal end, wherein

the proximal end of the needle is attached to the body, the distal end of the needle curved to form a hook, the distal end of the needle having means for penetrating tissue, the distal end of the needle having means for holding suture material, and comprising an elongated, straight portion of the hook shape, a first central axis is located within the proximal end of the needle,

the distal end of the needle comprising a tapered needle tip capable of penetrating tissue and having at least one passage to hold suture material, the tapered portion of the needle tip having a center line comprising the centroids of adjacent selected planar cross-sections of the tapered portion, each selected planar cross-section selected for having a smaller area than each proximally located planar cross-section having the same centroid

as the selected planar cross-section, the distal end of the needle formed so that at least a first line is tangent to the center line and the first central axis portion;

a movable arm, the movable arm having a proximal end and a distal end,
the proximal end of the movable arm pivotally mounted within attached to the
body,

the distal end of the movable arm having means to cover at least a portion of the
needle tip consisting of a needle tip protector and pivoting from a closed position
wherein the needle tip protector contacts the needle tip to an open position wherein the
movable arm pivots toward the straight elongated portion of the hook-shape and no
longer contacts the needle tip; and

a movable arm actuator, the movable arm actuator operable to move the movable arm
between the an open position and the a closed position; the closed occurring when the
distal end of the movable arm covers at least a portion of the needle tip; the open
position occurring when the distal end of the movable arm does not contact the needle
tip; the movable arm actuator and comprising a compression member; the compression
member disposed within the body,

the compression member operable to urge the movable arm to the open position

Claim 14 (Original). A suturing apparatus as claimed in claim 13, wherein the apparatus
comprises materials capable of tolerating autoclave sterilization.

Claim 15. (Currently Amended). A suturing apparatus as claimed in claim 13, wherein
the apparatus is configured for left hand use

Claim 16 (Original). A suturing apparatus as claimed in claim 13, further comprising a
first handle and a second handle, the first handle and the second handle attached to
opposite sides of the body.

Claim 17 (Original). A suturing apparatus as claimed in claim 13, further comprising a
first depression and a second depression, the first depression and the second depression
disposed upon opposite sides of the body.

Claim 18 (Original). A suturing apparatus as claimed in claim 13, further comprising a
first depression and a second depression, the first depression and the second depression
disposed upon the underside of the body.

Claim 19 (Canceled)

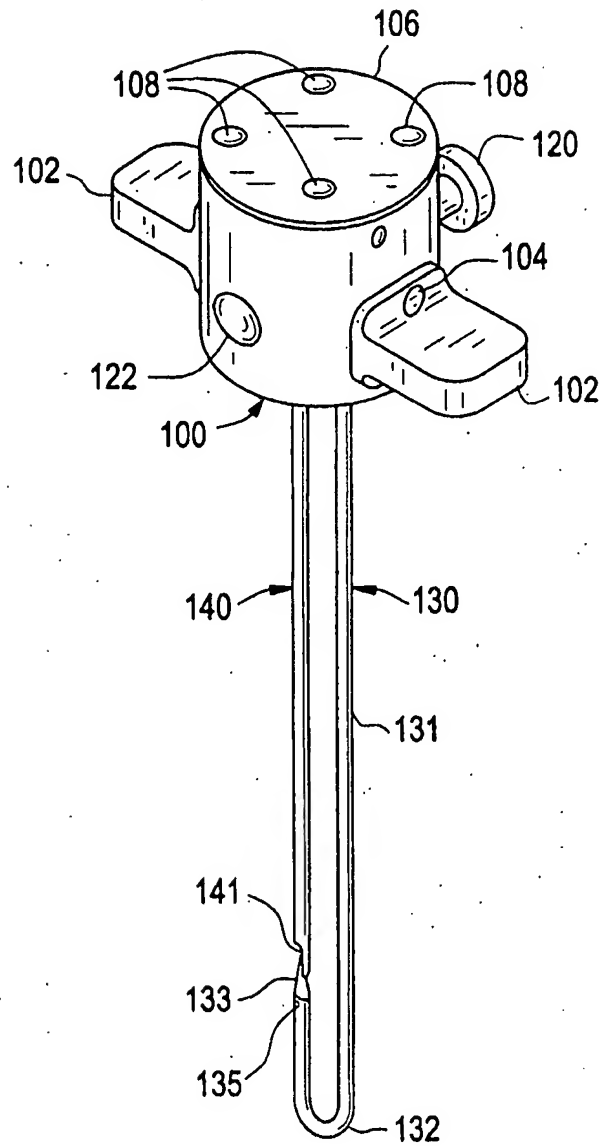
the tip 133 may angle toward, away from, or to either side of the shaft 131, with the moveable arm 140 shaped and oriented correspondingly to allow the tip protector 141 to mate smoothly with the tip 133. Both the needle shaft 131 and the tip protector 141 may also employ any angle, curve, or combination of angles and curves needed to allow the apparatus to reach any potential location for a suture. In this embodiment the needle 130 and moveable arm 140 have circular cross-sections, but any cross-sectional shape may be employed as desired. A hole 135 for suture material is bored radially through the needle a short distance below the base of the tip 133. The needle preferably comprises a proximal end and a distal end, the proximal end of the needle attached to the body and having a first central axis portion located within the proximal end of the needle, the distal end of the needle having a needle tip capable of penetrating tissue and having at least one passage to hold suture material, the tapered portion of the needle tip having a center line comprising the centroids of adjacent selected planar cross-sections of the tapered portion, each selected planar cross-section selected for having a smaller area than each proximally located planar cross-section having the same centroid as the selected planar cross-section, the distal end of the needle formed so that at least a first line is tangent to the center line and the first central axis portion

[0022] In this preferred embodiment, the needle 130, moveable arm 140, and screws 104, 108, 122 are made of stainless steel, although other corrosion-resistant materials may be used. Other metal parts are preferentially stainless steel, and non-metal parts are preferentially TEFLON®. In alternate embodiments, non-metal parts may be plastic or ceramic. The present invention may be designed for single or repeated use. Embodiments intended for repeated use must be sterilized between uses, so materials that will tolerate sterilizing agents, solvents, or autoclave temperatures are preferred.

[0023] The body 100 described in this preferred embodiment is drilled, milled, and turned from a single block of TEFLON®, but in other embodiments the body may be assembled, cast, injection-molded, or formed by other techniques well-known in the art.

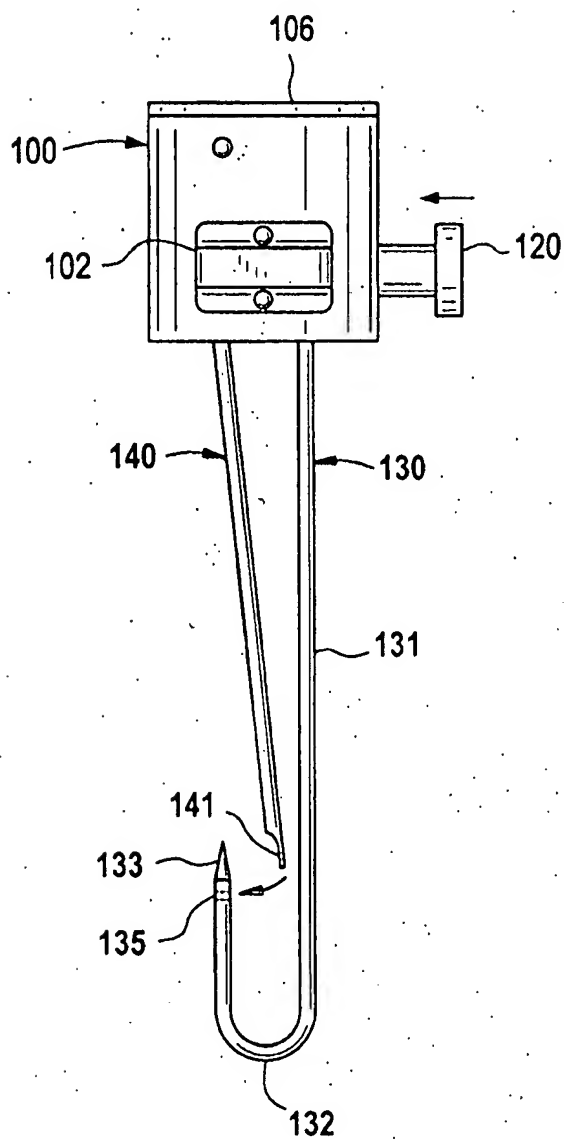
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FIG. 1



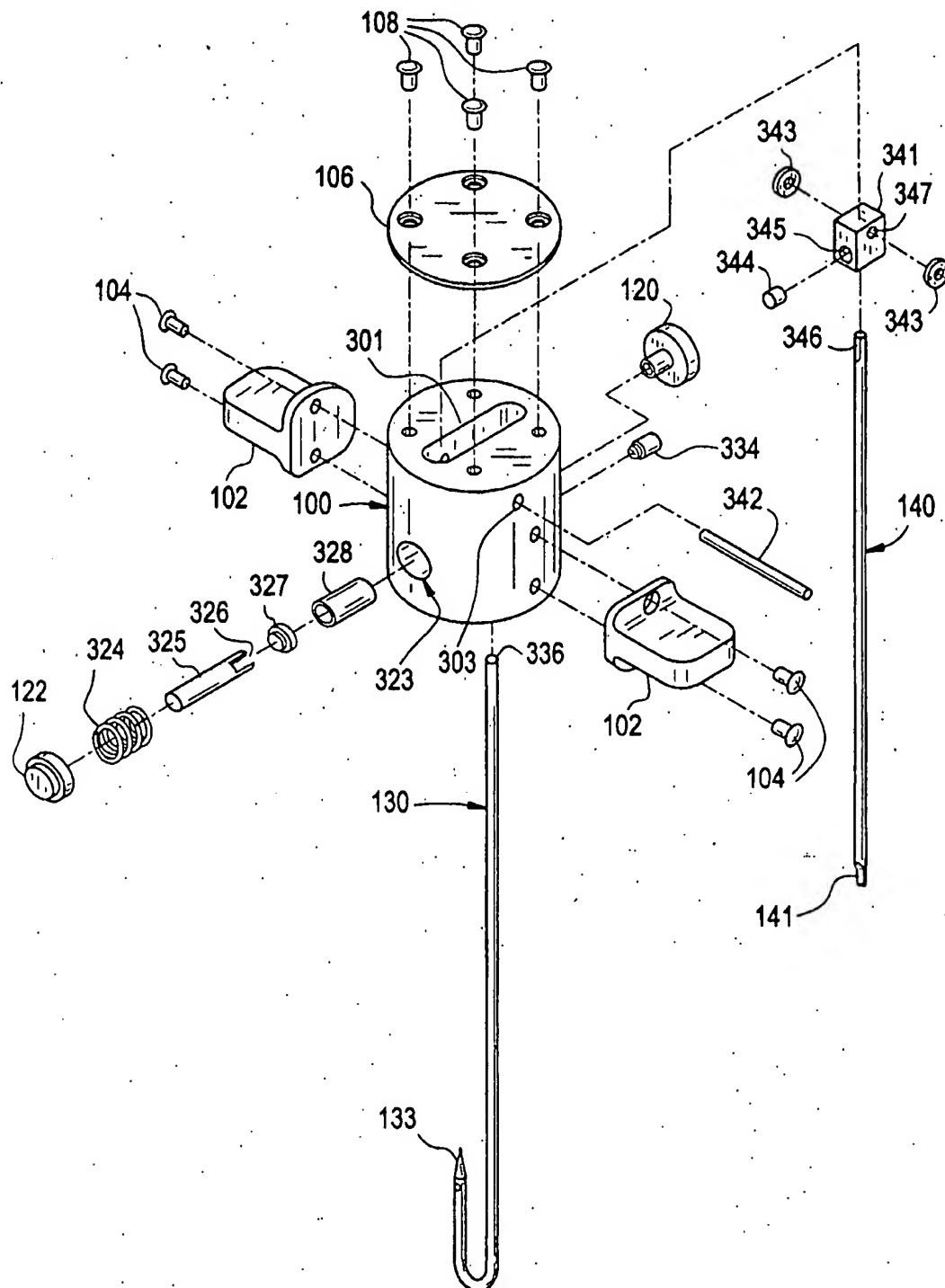
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FIG. 2



3/5

FIG. 3



4/5

FIG. 4

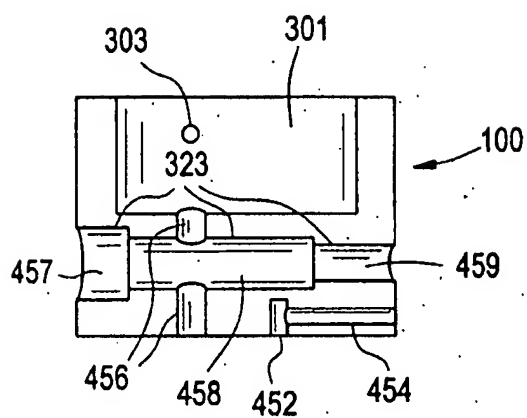
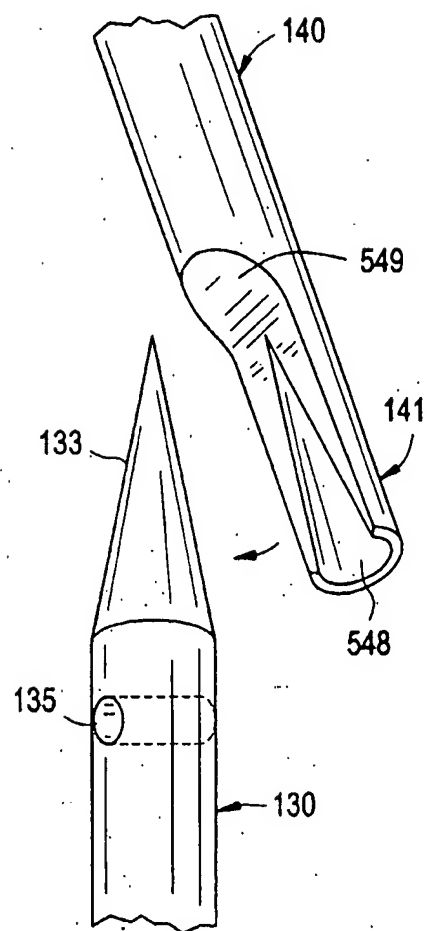


FIG. 5



5/5

FIG. 6A

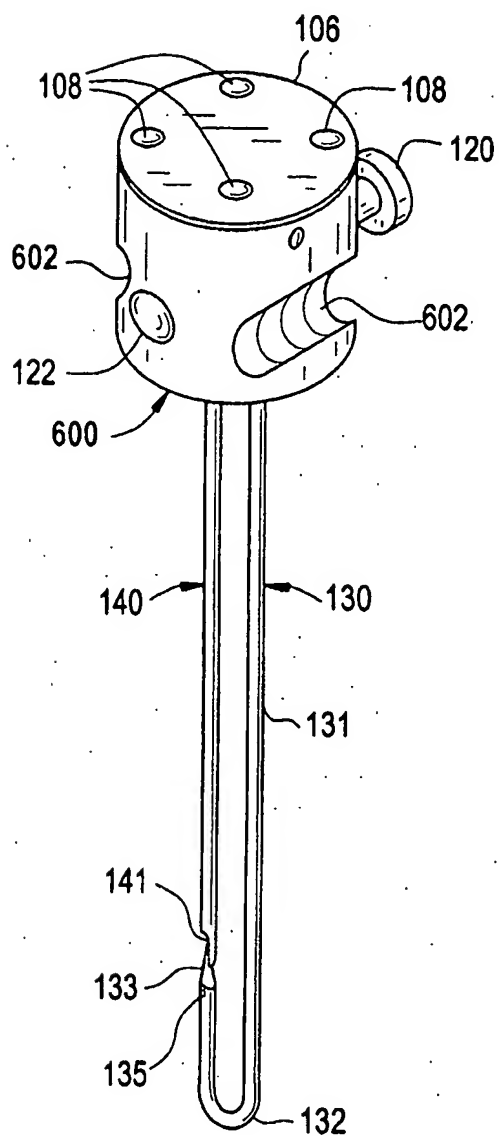


FIG. 6B

